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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/393,431 | 09/10/1999 | STEVE J. STATHL | | 2698 |

7590 06/08/2004
STEVE J SHATHL
4980 MEREDITH WAY #201
BOULDER, CO 80303

EXAMINER

TSE, YOUNG TOI

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2634

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DATE MAILED: 06/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | | |
|------------------------------|---|--|---|--|
| Office Action Summary | Application No. 09/393,431 | | Applicant(s) STATHL, STEVE J. | |
| | Examiner YOUNG T. TSE | | Art Unit 2634 | |
| | -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address -- | | | |

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 15 March 2004.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-97 is/are pending in the application.

4a) Of the above claim(s) 1-29 is/are withdrawn from consideration.

5) ☒ Claim(s) 30-32, 34-48, 50-57, 59-70 and 74-81 is/are allowed.

6) ☒ Claim(s) 33 and 82-97 is/are rejected.

7) ☒ Claim(s) 49, 58 and 71-73 is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 27 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____

4) ☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings were received on 27 October 2003. These drawings are acceptable.
2. The drawings are objected to because the proposed drawing correction of Figure 1 does not correspond to the original Figure 1, for example, block elements "112" and "114" should be labeled as – 114 – and – 112 –, respectively as shown in the original Figure 1 and mentioned in the specification. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 49, 58, and 71-73 are objected to because of the following informalities: in claim 49, line 1, "claim 30" should be – claim 48 – to avoid the lacking of antecedent basis of "the coupler"; in claim 58, line 1, "multicarrier-signal generator" should be – The multicarrier-signal generator --; and in line 2 of claims 71-73, "a plurality of" should be – the plurality of --. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claim 86 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 86, lines 3 and 4, the phrase "providing for modulating the coded information signals onto at least one of a set of signals" lacks antecedent basis.

Response to Arguments

6. Applicant's arguments with respect to claims 30-97 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 33 and 82-97 are rejected under 35 U.S.C. 102(b) as being anticipated by Swanson (Newly cited).

Swanson (U.S. Patent No. 4,164,714) discloses a transmitter circuit in Figure 2 including an input source 10 provides signals which are amplified and supplied to a load 12 by means of an amplifier which comprises a modulator 16 and a combiner 18.

With respect to claim 33, the modulator 16 includes eight individual pulse duration modulators 20-34 and an 8-phase clock 36 which provides square wave

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synchronizing signals (periodic pulses) to each of the pulse duration modulators 20-34. The eight square wave signal outputs of the 8-phase clock 26 is operated at the same frequency, but each signal output is delayed by an amount of substantially 45 degrees with respect to the output which is next closest in phase (plurality of periodic pulses)(column 5, lines 20-32). The pulse duration modulators 20-34 modulate the square wave signals with the input signal of the input source 10 into a plurality of pulse trains, P1-P8, each pulse train is composed of periodic pulses (column 5, lines 11-14). Each of the pulse duration modulators 20-34 provides a pulse duration modulation output signal having a phase and frequency established by the corresponding triangular wave signal (column 5, lines 48-51).

With respect to claims 82-97, the claimed subject matter are well known in the art as discussed in the Description of the Related Art of the instant application.

Allowable Subject Matter

9. Claims 30-32, 34-48, 50-57, 59-70, and 74-81 are allowed.
10. Claims 49, 58, and 71-73 would be allowable if rewritten or amended to overcome the objections set forth in this Office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Young Tse** whose telephone number is **(703) 305-4736**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Stephen Chin**, can be reached at **(703) 305-4714**.

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Any response to this action should be mailed to:

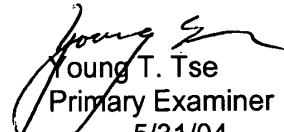
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or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.


Young T. Tse
Primary Examiner
5/31/04